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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,714	09/09/2003	Kyung pill Ko	1293.1853	8736

21171 7590 09/18/2006

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EXAMINER	
RICHER, AARON M	

ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/657,714	KO ET AL.	
	Examiner	Art Unit	
	Aaron M. Richer	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *15-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed July 3, 2006 have been fully considered but they are not persuasive.

2. As to claims 1 and 8, applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made.

3. Applicant has argued that claim 1 of the instant application differs from claim 14 of Segal. However, claim 14 of Segal has not been cited in the examiner's Office Action, and thus arguments directed to claim 14 of Segal are not pointing out how cited portions of the reference differ from the claimed invention. The portions of Segal that were actually cited by examiner in the rejection to claim 1 are as follows: col. 1, lines 62-67; col. 2, lines 17-24; col. 2, lines 60-67; col. 3, lines 43-60; col. 4, lines 54-60. However, given that claim 14 of Segal is similar to at least some of the cited portions of the Segal reference, the examiner will attempt to respond to arguments in order to further clarify the record:

4. Applicant notes in Table I of arguments that Segal claims logic for determining maximum values for "at least one" color component, but the disclosure of Segal cited clearly discloses maximum values for each component (col. 4, lines 54-60) . The instant invention claims detection of a maximum value of 3 color components (R, G, and B). It is further noted that both claim 1 and the cited portions of Segal are relevant to

brightness adjustment (see col. 3, lines 43-60; pixels become brighter or darker). Both Segal and the claimed invention then adjust color components by a scaling factor. The fact that Segal uses a complex formula involving a subtraction operation does not preclude this formula from being considered a "predetermined ratio" as claimed in the instant application. Using simple mathematical properties, Segal's formula can be written this way:

MAXpixel * (1-(1.0001-COLOR/MAXcomponent)^Exponent)

where (1-(1.0001-COLOR/MAXcomponent)^Exponent) can then be considered a "predetermined ratio".

5. Similarly, applicant has argued that claim 8 of the instant application differs from claim 1 of Shiota. Applicant further points out that claim 1 of Shiota uses means plus function language which limits the claim. Examiner agrees that means plus function language limits the scope of Shiota's claims, but this is irrelevant since the scope of the claims is not the disclosure. Examiner notes that p. 2-3; sections 0030-0035, section 0041; p. 9, sections 0181-0182 were cited in the disclosure and that not all features in this disclosure are contained in claim 1. Again, examiner will attempt to respond to arguments in order to further clarify the record:

6. Examiner notes that the description of claim 8 in Table II of the arguments directly contradicts the claim language. For instance, applicant equates detection of a maximum value of "each" of a plurality of color signals with detection of a "total" value. The "total" value is not claimed in claim 8, and therefore is irrelevant to the claim's patentability. Similarly full white and full black are not compared in claim 8. Instead,

each maximum value of a color signal is compared. Further, claim 8 is not concerned with total maximum values of overall brightness, instead it recites adjusting color temperature.

7. Applicant has submitted arguments alleging that Segal in view of Park does not disclose claim 1. Examiner notes that Park was not used to reject claim 1 in the previous Office Action. Instead Park was brought in to cure the deficiencies of Segal with respect to claim 2.

8. Finally, examiner notes that the previous Office Action stated that "Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota in view of Segal." This final phrase of this sentence was a minor typographical error and should have read "Segal in view of Shiota", which is rendered obvious by the rejection itself. As such, examiner has corrected this sentence. Since this was merely a typographical error, and the original rejection was communicated in a clear manner that left no doubt about which reference was modifying the other, it is not believed that this minor change forces this action to be non-final. The grounds of rejection have remained entirely the same.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1 and 4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Segal (U.S. Patent 6,791,567).

11. As to claim 1, Segal discloses an apparatus for adjusting brightness of a screen on which input RGB color signals are displayed, the apparatus, comprising:

a RGB color signal generator to detect a total maximum value of the RGB color signals, to compare the total maximum value with a predetermined critical value (col. 1, lines 62-67; col. 2, lines 60-67), and to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor and a ratio is a part of this calculation);

and a system controller to provide the predetermined critical value to the RGB color signal generator (col. 2, lines 60-67; the invention acts as a controller, providing the critical value to a ratio setting unit).

12. As to claim 4, Segal discloses an apparatus wherein the predetermined ratios are set using data provided from the system controller based on reference data input by a user (col. 3, lines 49-60; col. 4, lines 16-21).

13. As to claim 5, Segal discloses an apparatus wherein the RGB color signal generator windows a predetermined area of the screen, and then detects the total maximum value of the RGB color signals in the predetermined area (col. 2, lines 56-67; a surface as in fig. 1-4 reads on a predetermined area of the screen).

14. As to claim 6, Segal discloses an apparatus wherein the predetermined area is determined depending on a highest resolution supported by the screen on which the image is displayed (col. 2, lines 56-67; a surface is selected and resolution is inherently a factor in determining the coordinates of that surface; if a surface were being displayed on a high resolution monitor vs. a low resolution monitor, these coordinates would be different).

15. As to claim 7, Segal discloses an apparatus wherein the brightness of the screen is automatically adjusted (col. 3, lines 49-60; the function can be modified by a user, otherwise it is automatic).

16. Claims 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Shiota (U.S. Publication 2004/0001165).

17. As to claim 8, Shiota discloses an apparatus for adjusting a color temperature of a screen on which input RGB color signals are displayed, the apparatus, comprising: a RGB color signal generator to detect a maximum value of each of a plurality of color signals comprising the RGB color signals, to compare the maximum values, and to generate other RGB color signals, if one of the maximum values is greater than the others, having a color temperature increased to a predetermined value (p. 2-3; sections 0030-0035, section 0041; p. 9, sections 0181-0182; a maximum luminance value greater than others is determined and increased to a device's full luminance level, thereby increasing its color temperature);

and a system controller to provide the RGB color signal generator with the predetermined value and data on conditions necessary for detecting a color signal

having the higher maximum value than the other color signals (p. 2-3; sections 0030-0035, section 0041; p. 9, sections 0181-0182).

18. As to claim 9, Shiota discloses an apparatus wherein the system controller provides a reference value used in comparing the maximum values and detecting the color signal having the higher maximum value than the others with the data on the conditions, and the reference value is set based on a difference value such that a user perceives a maximum value of the color signal displayed on the screen to be higher than those of the other color signals (fig, 9; p. 2-3; sections 0030-0042; p. 11, section 0198; a "bend point" acts as a reference value and maximum values above this point are corrected to be greater in difference than the input values; histograms are used to determine this point, and the use of the invention is to display a higher gray scale in that range for a user's perception).

19. As to claim 10, Shiota discloses an apparatus wherein the RGB color signal generator detects the maximum values of the RGB color signals in each frame (p. 9, section 0178; p. 12, section 0214).

20. As to claim 11, Shiota discloses wherein the color temperature of the screen is automatically adjusted (p. 2-3; sections 0030-0035, section 0041; p. 9, sections 0181-0182; the adjustment is based on detected luminance values with no user input).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segal in view of Park (U.S. Publication 2002/0163527).

23. As to claim 2, Segal discloses an apparatus wherein the predetermined critical value comprises a first predetermined critical value determined in a case where the brightness level of pixels in an area of the screen from which the total maximum value is detected corresponds to substantially full white (col. 1, lines 14-22; the maximum value which is acted upon corresponds to a color substantially white).

Segal does not disclose an apparatus in which a second predetermined critical value determined in a case where the brightness level of pixels in the area corresponds to substantially full black. Park, however, discloses a value that corresponds to a set black point (p. 3, section 0058). The motivation for this is to promote color accuracy at both sides of the color spectrum efficiently, without use of color cards, for instance (p. 1, section 0007). It would have been obvious to one skilled in the art to modify Segal to set a critical value corresponding to full black in order to efficiently reproduce both white and black as taught by Park.

24. As to claim 3, Segal discloses an apparatus wherein if the total maximum value is greater than the first predetermined critical value, the RGB color signal generator decreases the brightness level of the image on the screen by one of the predetermined ratios by generating less bright RGB color signals (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor and a ratio is a part of this calculation).

Segal does not disclose that if the total maximum value is less than the second predetermined critical value, the RGB color signal generator increases the brightness level of the image on the screen by another of the predetermined ratios by generating brighter RGB color signals. Park, however, discloses setting a color to a relative brightness of 0, which increases brightness by a certain ratio, considering that originally the brightness would have actually been blacker than the black point of the monitor. The motivation for combining the black point critical value apparatus of Park with the white point apparatus of Segal can be found in the rejection to claim 2.

25. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segal in view of Shiota.

26. As to claims 12 and 13, Segal discloses an apparatus for adjusting brightness of a screen on which input RGB color signals are displayed, the apparatus, comprising:

a RGB color signal generator to detect a total maximum value of the RGB color signals, to compare the total maximum value with a predetermined critical value (col. 1, lines 62-67; col. 2, lines 60-67), and to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor and a ratio is a part of this calculation);

and a system controller to provide the predetermined critical value to the RGB color signal generator (col. 2, lines 60-67; the invention acts as a controller, providing the critical value to a ratio setting unit).

Segal does not disclose an apparatus for adjusting a color temperature of a screen on which input RGB color signals are displayed, the apparatus, comprising: a RGB color signal generator to detect a maximum value of each of a plurality of color signals comprising the RGB color signals, to compare the maximum values, and to generate other RGB color signals, if one of the maximum values is greater than the others, having a color temperature increased to a predetermined value;

and a system controller to provide the RGB color signal generator with the predetermined value and data on conditions necessary for detecting a color signal having the higher maximum value than the other color signals.

Shiota, however, does disclose these limitations (p. 2-3; sections 0030-0035, section 0041; p. 9, sections 0181-0182) as explained in the rejection to claim 8. The motivation for adding these features is to use an entire dynamic range of a display and enhance image quality (p. 1, section 0002-0004). It would have been obvious to adjust color temperature based on detected maximum RGB color signals in order to use a full range of a display and enhance image quality as taught by Shiota.

27. As to claim 14, Shiota discloses an apparatus wherein the color temperature and the brightness of the screen are automatically adjusted (p. 2-3; sections 0030-0035, section 0041; p. 9, sections 0181-0182; no user input is required). The motivation for adding this feature to the invention of Segal can be found in the rejection to claim 12.

Conclusion

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Richer whose telephone number is (571) 272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMR
9/11/06

KEE M. TUNG
SUPERVISORY PATENT EXAMINER